

What Is Claimed Is:

1. A device (20) for detecting current-impressed useful signals, added to a DC supply current for a digital alarm line security system,
wherein a current bypass branch (26) is provided in parallel to a first current sensor element (22) designed for picking up the signals, the current bypass branch (26) representing a controlled constant current sink, the control operating in such a way that the current flowing through the first current sensor element (22) contains the useful signals having an essentially unreduced amplitude, and a reduced portion of the DC component of the supply current.
2. The device (20) as recited in Claim 1,
wherein the current bypass branch (26) contains a second current sensor element (28), a control amplifier (32), and an actuator (30) for adjusting the resistance of the current bypass branch (26), the actuator (30) being controlled by the control amplifier (32) in such a way that a constant current adjusted to a setpoint value which is input at the control amplifier (32) flows through the current bypass branch (26), the setpoint value being defined by a microprocessor (40) as a function of time.
3. The device (20) as recited in Claim 1,
wherein the setpoint value determined by the microprocessor (40) is supplied to the control amplifier (32) via a digital-analog converter (42).
4. The device (20) as recited in Claim 2 or 3,
wherein the microprocessor (40) picks up the supply current value for determining the setpoint value from a current sensor element (36) installed in the supply current line.
5. The device (20) as recited in one of Claims 2 through 4,
wherein at least one of the current sensor elements (22, 28, 36) is designed as an ohmic resistor.
6. The device (20) as recited in one of Claims 2 through 5,
wherein the level of the setpoint value is adjusted to fluctuations of the reference potential of the control amplifier (32) using an ohmic resistor (44) installed between the reference potential point (48) and the control amplifier (32).

7. The device (20) as recited in one of Claims 1 through 6,
wherein the useful signal has an amplitude between 10 mA and 15 mA.

8. The device (20) as recited in one of Claims 1 through 7,
wherein the constant current through the current bypass branch (26) is regulated in such a way
that the reduced portion of the supply current flowing through the first current sensor element
(22) connected in parallel thereto is a maximum of 100 mA.

9. The device as recited in Claim 8,
wherein the actuator (30) is a MOS field-effect transistor.

10. A digital alarm line security system containing a device (20) as recited in one of Claims 1
through 9